

Description

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Current Collector

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1. Current collector (32) for a third rail (74), comprising a base parallelogram (20) extending from a vehicle, with a mounting (58) for a collector shoe (30, 68) extending from said parallelogram, wherein the base parallelogram comprises a first leg (22, 38) running on the rail side, a second leg (26, 40) running along the first leg away from the rail as well as third and fourth legs (24, 28, 42, 44) connected in an articulating fashion with first and second ends, respectively, of the first and second legs and wherein the mounting for the collector shoe is connected with a single leg adjustable in relation to the vehicle through at least one of its swivel axes,

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characterized in that

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the mounting (58) is connected to the first or the fourth leg (22, 38, 46; 24, 44, 52) by means of at least one connection (64, 66) comprising a predetermined breaking point (60, 62).

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2. Current collector pursuant to claim 1,

characterized in that

the mounting (58) for the collector shoe (68) is connected to a leg (24, 44, 52) that is adjustable in relation to the vehicle with its two swivel axes.

3. Current collector pursuant to claim 1 or 2,
characterized in that
the third leg (28, 42) connecting the first ends of the first and second legs (22, 26,
38, 40) is arranged in a stationary fashion in relation to the vehicle or housing (33)
of the current collector (32) connected to said vehicle, in that the fourth leg (24, 44,
52) is adjustable in relation to the vehicle with its swivel axes (78, 80) connected to
the first and the second leg, and in that the mounting (58) for the collector shoe
(68) extends from the fourth leg.

4. Current collector pursuant to at least one of the above claims,
characterized in that
the mounting (58) is connected to the first or the fourth leg (22, 24, 38, 44) by
means of several connections (64, 66) such as bolts, comprising a predetermined
breaking point (60, 62), respectively.

5. Current collector pursuant to at least one of the above claims,
characterized in that
the collector shoe (68) is connected to the mounting (58) in an electrically
conductive fashion by means of the connection or connections (64, 66) such as
bolts.

6. Current collector pursuant to at least one of the above claims,
characterized in that
a current conductor leading to the drive of the vehicle extends from the leg (22, 24,
38, 44) connected to the mounting (52) [sic], in particular from the fourth leg that is
designed preferably as a head part (52) of the current collector.

7. Current collector pursuant to at least one of the above claims,
characterized in that
an emergency running shoe (98), which can be supported by the third rail (74),
extends from the fourth leg (24, 44) or the head part (52).

8. Current collector pursuant to at least one of the above claims,
characterized in that
the third leg (28, 42) is a segment of the housing (33) of the current collector (32).

5 9. Current collector pursuant to at least one of the above claims,
characterized in that
both the first leg (22, 38) and the second leg (26, 40) consist of electrically
insulating material.

10 10. Current collector pursuant to at least one of the above claims,
characterized in that
the second leg (26, 40) is formed by at least two bar-shaped elements such as
rods (48, 50).

15 11. Current collector pursuant to at least one of the above claims,
characterized in that
the first leg (22, 38) such as a rocker (46) in relation to a line connecting its swivel
axes (78, 82) forms an angle φ with the third rail (74), with $\varphi \leq 15^\circ$, when the
collector shoe (68) is supported by the third rail.

20 12. Current collector pursuant to at least one of the above claims,
characterized in that
a spring element (94) such as a pressure spring, which applies a pressure force
onto the first leg (22, 38), extends from the housing (33) of the current collector
25 (32) or from the vehicle from a first articulated point (92), said element being
connected with the first leg in a second articulated point (96), in that the second
articulated point is located between the swivel axes (78, 82) of the first leg, in that
the second articulated point runs between the third rail and a line connecting the
first articulated point with the rotational axis connecting the first leg with the third

leg (28, 42) when the collector shoe (68) is supported by the third rail (74), and in that in a lifted position of the current collector the second articulated point runs between the line and the vehicle or mounting of the housing (33) to the vehicle, wherein the pressure force acting upon the second articulated point leads to an automatic mounting layout of the base parallelogram (20) in the raised position.

13. Current collector pursuant to at least one of the above claims,
characterized in that

the first leg (22, 38), as well as the rocker (46) are connected by means of a hollow shaft (82), like the swivel axis to the side flanges (34, 36) and the third leg (28, 42) of a segment of the housing (33) having a U-shaped profile.

14. Current collector pursuant to at least one of the above claims,
characterized in that

the bar-shaped elements such as the rods (48, 50) forming the second leg (26, 40) are connected to the third or fourth leg (24, 28, 42, 44) by means of dome-shaped seating points.

15. Current collector pursuant to at least one of the above claims,
characterized in that

the vehicle or the housing (33) of the current collector (32) is connected to the first leg (22, 38) by means of a pneumatic cylinder.

16. Current collector pursuant to at least one of the above claims,
characterized in that

the parallelogram (20) comprises two short legs (24, 28) and two long legs (22, 26) and that the mounting (58) extends from a short leg (24) or an extension thereof.